

\* There are two cycles :

① Production cycle ,

- Production cycle starts and ends with Customer.

② Production - Consumption cycle :

- ( $a_p$  Production rate)

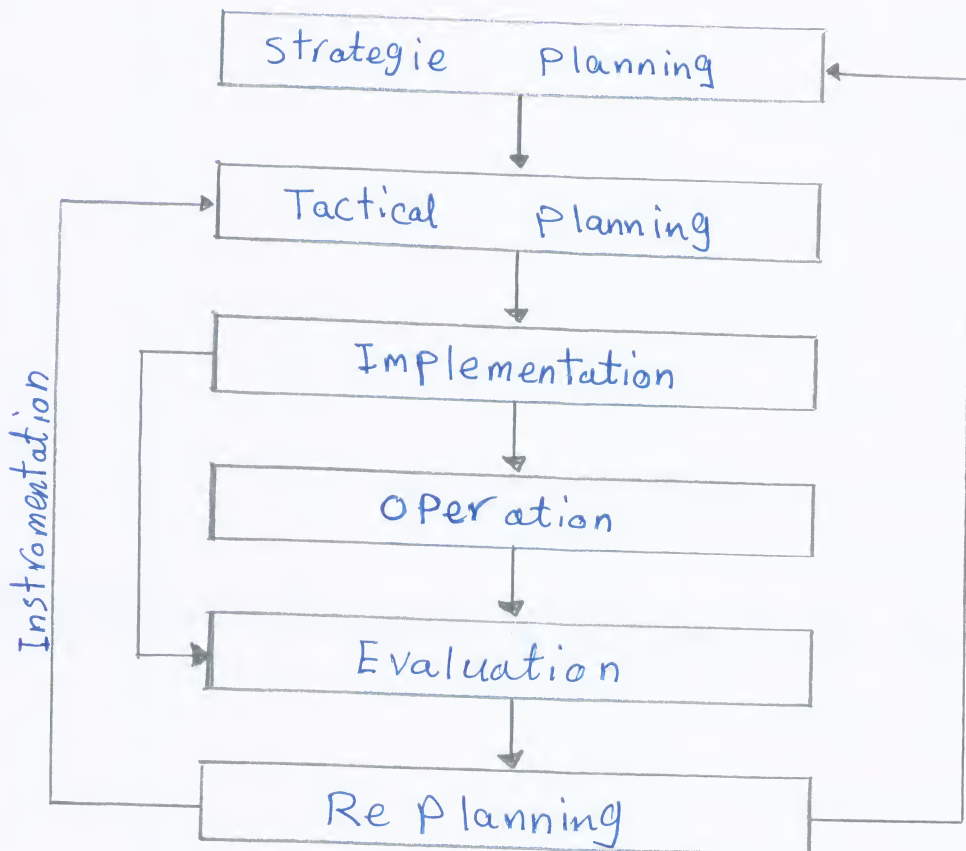
- ( $a_c$  consumption rate)

\* For good Market =  $a_p > a_c$

note: Depreciation      الأملاك

- تقاسم القيمة المادية للسلع الورقية المحتل - داخل الاقليم .

Production - Consumption Diagram :



\* Prod-Cons cycle includes facilities and abilities as follows:

- (1) Production Design (Standardization - Specialization - Simplification)
- (2) Job and Process Design (Job sequence and Labor)
- (3) Equipment selection and Replacement (high Quality)
- (4) Labor skills (Time - Quality - Profit)
- (5) Input materials selection (high Quality)
- (6) Plant selection (Large-space Places - Production, transport and storage Places)
- (7) Scheduling steps (Market Planning)
- (8) Implementing and Controlling the schedule (Control Quality - Marketing - Distribution)
- (9) operating the Production system (Planning - advising - checking - Prod. size)

\* Prod. Cons Diagram includes consideration of control system as follows:

- (1) Inventory - control Policies
- (2) Quality - control Policies
- (3) Production schedule Policies
- (4) Productivity & Cost - control Policies
- (5) Constructing - control system
- (6) Implementing and controlling system
- (7) modifying Policies

\* The measures of effectiveness for the design of total Production system:

- (1) Costs of running system
- (2) Quality of the output
- (3) Production rate and Productive Capacity
- (4) Flexibility to adjust to change circumstances
- (5) Social value of system

\* Money :

- الشمن الفعل لكل ما يوجد بالصنات

- Costs:

① variable Costs (Direct costs):

- Material Costs (D.M.C)
  - Labor Costs (D.L.C)
- } V.C

\*  $a = \text{variable costs} / \frac{\text{piece}}{\text{product unit}} (\text{money})$  \*  $\text{Production volume} = \text{Quantity (units)}$

$$V.C = (D.M.C) + (D.L.C) = a \cdot Q (m.u)$$

② Fixed Costs (indirect costs).

- (i) Overhead Expenses
- (ii) Factory Expenses
- (iii) Administrative Expenses
- (iv) Selling Expenses

\* Total Cost :

$$\begin{aligned} \text{T.C.} &= \text{Variable Cost} + \text{Fixed Cost} = \text{V.C.} + \text{F.C.} \\ &= F + aQ \end{aligned}$$

- Sales Income (S.I.) (Revenue) :

T.C. + Profit

-  $b = \text{S.I. / unit}$

- Revenue =  $b \cdot Q$

- Profit (Z) = R - T.C.

\*  $Q$  (Prod. Quantity)

\* B.E.P. (Break Even Point)

\* Profit triangle

